



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,363	04/01/2004	Albert E. Seaver	56433US012	8242

32692 7590 01/25/2005

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

PARKER, FREDERICK JOHN

ART UNIT	PAPER NUMBER
----------	--------------

1762

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

28

Office Action Summary

Application No.

10/815,363

Applicant(s)

SEAVER ET AL.

Examiner

Frederick J. Parker

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Specification

2. The disclosure is objected to because of the following informalities: Page 1 line 1, cross-reference to related applications is missing; please insert. Appropriate correction is required.

Claim Objections

3. Claim 23 is objected to because of the following informalities: claim 23, line 2, inserting "electronic" before components would improve clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1,6,25-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1762

- Claim 1, line 4, the claim is vague and indefinite because it is unclear if the “thus applied liquid” refers to the continuous coating or the newly-applied drops.
- Claim 6, line 3; the claim is vague and indefinite because it is unclear if the “coating” refers to the continuous coating of the transfer surface or the coating on the substrate.
- Claim 25, line 2; the claim is vague and indefinite because it is unclear if the “coating” refers to the continuous coating of the transfer surface or the coating on the substrate.
- Claims 26-30, “caliper” lacks antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,2,15-17,20 are rejected under 35 U.S.C. 102(b) as being anticipated by

Sedlacsik, Jr et al US 3001890.

An electrostatic liquid coating method is taught for coating substrates, including insulating substrates such as wood (inherently porous and “biologically derived” per claims 17 & 20), earthenware (e.g. ceramic), etc (col. 4, 24-29). In the method charged liquid droplets from end 44 of spray gun S are sprayed onto rotating (“circulates” per claim 2) distributing disc 20 which in turn transfers/ projects coating material onto substrate object O (col. 2, 52-58; col. 3, 6-66). The disc is made of an electrically conductive material. After the initial application of the coating liquid to the disc, the disc while rotating would necessarily be continuously coated, and newly applied spray droplets would encounter the surface of the rotating disc 20 in an already wetted

Art Unit: 1762

condition, as required by claim 1. The coating would be continuous to provide a continuous projection of liquid coating material onto the object to form the uniform coating requirement of col. 1, 29-32. The reference therefore meets each and every limitation of the claim as currently worded.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-7,15-23,31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernert et al US6063450 in view of Sedlacsik Jr.

Bernert teaches methods of applying liquid coatings onto continuous substrates, e.g. web of paper or cardboard (which are porous and “biologically derived” since they are formed from natural biological materials), or textile (porous and insulating) per claims 15,17,20, one method being by indirect transfer means (this discussion herein refers only to that embodiment). Textile

Art Unit: 1762

webs are inclusive of woven and non-woven webs of specific materials per claims 18 & 21. The indirect method comprises application of the liquid medium by one or more electrostatic spray nozzles onto a carrier face, e.g. counter-roll, where the coating is transferred to the web as it passes through a roll gap (gap between counter roller and second/ backing roller) per claims 2,6 (col. 1, 14-31), which necessarily enhances coating uniformity by causing leveling per claim 7. However, transfer means can also be “another revolving support or carrier face”, suggesting or encompassing a drum and a belt, per claims 3,5. As evident, the substrate is not precharged, per claim 16. The conductivity of the transfer surface is not discussed.

Sedlacsik is cited for the same reasons previously discussed, which are incorporated herein. In the reference, a conductive transfer disk is taught (col. 2, 56-57), suggesting the use of conductive transfer means in other processes such as the transfer roll process of Bernert. The metallic transfer surface promotes charge grounding/ neutralization.

As to claim 22, the depth of penetration of coating into a porous substrate would have been dependant upon (1) the porosity of the substrate, and (2) the pressure on the applied coating at the nip, as would have been obvious to the skilled artisan.

As to claim 23, the end-use of the substrate cited by Bernert is not limited, and would have included an electronic film, any component (textiles, wood, etc are “components”), or a precursor thereof because of the expectation of successful coating.

While a second transfer surface is not taught per claim 19, it would have been obvious to the skilled artisan that providing plural transfer means to apply coatings would have been expected to provide equivalent results, absent a clear and convincing showing to the contrary.

Art Unit: 1762

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Bernert et al by utilizing a conductive transfer means as taught by Sedlacsik Jr to provide a conductive surface for modifying electrostatic charge onto which coating material is applied and subsequently applied to a substrate.

11. Claims 8-14,32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernert et al US6063450 in view of Sedlacsik Jr and further in view of Hall GB 1 278 099.

Bernert and Sedlacsik Jr are cited for the same reasons previously discussed, which are incorporated herein. Pick and place devices are not taught.

Hall teaches a method of liquid coating stripes to a film/ web substrate, in which the coating is contacted with at least two staggered smoothing rollers which pick up a portion of the coating and re-apply the portion to cause widening out, smoothing, and thinning of the coating, along with a decrease in longitudinal striations (p.1, 92 to p.2, 17). Col. 1 41-46 teaches the use of at least 2, and even 5 or more rollers, hence the number of rollers of claims 8 and 10 are encompassed by Hall. The diameters of the rollers, means of causing rolling, etc of claims 11-13 would have been obvious variations within the purview of one skilled in the art to provide specific roller speeds and contacting surfaces required for any end-use application.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Bernert et al in view of Sedlacsik Jr by incorporating the pick and place rollers of Hall to provide transferred coatings with improved widening, smoothness, and surface texture.

Art Unit: 1762

12. Claims 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernert et al US6063450 in view of Sedlacsik Jr and further in view of Leonard et al US 5409732.

Bernert and Sedlacsik Jr are cited for the same reasons previously discussed, which are incorporated herein. Achieving a caliper is not taught.

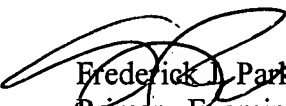
Leonard et al teaches regulating thickness of a coating applied to a web using a metering beam 14 adjacent roller 12 forming gap 15 between which a coated web passes to remove excess coating. The width and shape of the gap formed produces a coating of uniform and regulated thickness (col. 1, 30-33; col. 3, 16-38; col. 5, 17-44; fig. 1). Coated substrates are necessarily dried, cured and/or hardened to provide a coated substrate with utility. The “regulated thickness” would have been any desired thickness for a given end-use application, with the amount determined by routine experimentation or following industry criteria, per claims 26-30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Bernert et al in view of Sedlacsik Jr by incorporating the teachings of Leonard regarding caliper of the coating to produce smooth coatings with consistently uniform thickness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Shrive Beck can be reached on 571/272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Frederick J. Parker
Primary Examiner
Art Unit 1762

fjp